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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,147	05/16/2005	Marcus Hofmann	3926.159	2396

30448 7590 05/09/2008
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EXAMINER	
ENSEY, BRIAN	

ART UNIT	PAPER NUMBER
2615	

MAIL DATE	DELIVERY MODE
05/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/535,147	HOFMANN ET AL.	
	Examiner	Art Unit	
	Brian Ensey	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 9-11* is/are rejected.

7)☒ Claim(s) *5-8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 May 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because it contains narrative language such as "The aim of the invention…". Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The disclosure is objected to because of the following informalities: The applicant should be consistent in naming element 50. See paragraph 00017, "an alternative design 50" and "loudspeaker chassis 50."

Appropriate correction is required.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

Claim 5 is objected to because of the following informalities: Claim 5 depends from itself. For the purpose of examination, the examiner will treat claim 5 as dependent from claim 4 due to the claim language of claims 4 and 5. Appropriate correction is required.

Drawings

The drawings are objected to because Figure 1 is not labeled as Figure 1a and Figure 1b as described in the specification in paragraph 00011. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR

1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: See paragraph 00017, item 50. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maekawa et al. U.S. Patent No. 7,130,440 B2 in view of Tsukamoto U.S. Patent No. 3,944,757.

Regarding claim 1, Maekawa discloses an acoustic apparatus for producing audio signals, in which the sound transducer (66) and the at least one sound emergence location (60) are physically separate from one another, in which the sound transducer is connected to the sound emergence location by means of at least one air-guiding sound line (conduit) (58) (See Fig. 4). Maekawa does not expressly disclose at least one sound emergence location is provided with a means for achieving acoustic impedance matching for the air in the sound line and the ambient air in order to reduce resonance effects, and the means for acoustic resonance matching is made of a material which has the acoustic impedance of air, wherein this material is placed in two dimensions (planar, along the surface) and conclusively (coherently) over the at least one sound emergence location. However, the use of materials for acoustic impedance matching in a tubular element is well known in the art and Tsukamoto teaches a sound transducer (1) and a sound emergence location (6) physically separate from one another provided with a means for achieving acoustic impedance matching for the air in the sound line and the ambient air in order

to reduce resonance effects (5), and the means for acoustic resonance matching is made of a material which has the acoustic impedance of air, wherein this material is placed in two dimensions (planar, along the surface) and conclusively (coherently) over the at least one sound emergence location (See Fig. 1 and col. 5, lines 19-39). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the acoustic resistance member (5) of Tsukamoto in the tubular member of Maekawa to provide and output sound with an acoustical matching between the air column within the tubular member and the outer atmosphere (See Tsukamoto col. 5, lines 33-37).

Regarding claim 9, the combination of Maekawa in view of Tsukamoto further discloses the sound emergence locations are placed in the headrests of a vehicle seat, and the sound transducers are located outside of the headrests (See Maekawa Fig. 4 and col. 5, lines 47-56).

Regarding claim 10, the combination of Maekawa in view of Tsukamoto further discloses the support rods of the headrests are used for acoustic sound transmission (See Maekawa Fig. 4 and col. 5, lines 63-67).

Claims 2 and11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Maekawa in view of Tsukamoto as applied to claim 1 above, and further in view of Kohn U.S. Patent No. 5,248,846.

Regarding claims 2 and 11, the combination of Maekawa in view of Tsukamoto discloses an acoustic apparatus as claimed. The combination of Maekawa in view of Tsukamoto does not expressly disclose the material which has the acoustic impedance of air is a fibrous and/or porous material, wherein the material which has the acoustic impedance of air is felt, sponge material, unwoven fabric or felt metal. However, fibrous and/or porous materials, including is felt, sponge

material, unwoven fabric or felt metal is well known for having the acoustic impedance of air (See applicant's disclosure page 4, paragraph 0009) and Kohn teaches using unwoven fabric or sponge to prevent resonance and have air permeability and acoustic resistance (See Figs. 4 and 6 and col. 7, lines 43-62). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the unwoven fabric or sponge as taught by Kohn for the material of the combination of Maekawa in view of Tsukamoto.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Maekawa in view of Tsukamoto as applied to claim 1 above, and further in view of Rosen et al.U.S. Patent No. 5,170,435

Regarding claim 3, the combination of Maekawa in view of Tsukamoto discloses an acoustic apparatus as claimed. The combination of Maekawa in view of Tsukamoto further discloses the apparatus has at least two sound lines. The combination of Maekawa in view of Tsukamoto does not expressly disclose the sound emerging jointly from the sound lines has a high sound level through superimposition in a preferred direction and has a lower sound level in an unwanted direction as a result of the design of the sound line and/or as a result of the manner in which the sound is supplied by the sound transducer. However, Rosen teaches a sound transducer (36) with two sound lines (14, 16), where the sound emerging jointly from the sound lines has a high sound level through superimposition in a preferred direction and has a lower sound level in an unwanted direction as a result of the design of the sound line and as a result of the manner in which the sound is supplied by the sound transducer (See Fig. 4 and col. 3, lines 5-62). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the

invention to vary the lengths of the sound tubes of the combination of Maekawa in view of Tsukamoto as taught by Rosen to assist in impedance matching.

Regarding claim 4, the combination of Maekawa in view of Tsukamoto in further view of Rosen further discloses the sound emergence locations of the individual sound lines are arranged relative to on another such that a flat radiating element is produced (See Maekawa Fig. 1).

Allowable Subject Matter

Claims 5-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:00 AM - 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian Ensey/
Primary Examiner, Art Unit 2615
May 6, 2008